

# The South Australian NATURALIST

A Quarterly Journal of Natural History  
published by  
THE FIELD NATURALISTS' SECTION  
of the  
ROYAL SOCIETY OF SOUTH AUSTRALIA (INC.)

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*Hon. Editor* - - - NOEL LOTHIAN  
Club founded 1883 — S.A. Naturalist 1919  
The author is responsible for the facts recorded.

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This Section was founded in 1883 for the purpose of affording observers and lovers of Natural History regular and frequent opportunities for discussing those special subjects in which they are naturally interested; for the Exhibition of Specimens; and for promoting Observations in the Field by means of Excursions to various collecting grounds around the Metropolis.

The Monthly Meetings of the Section for Lectures, the Reading of Papers, and Exhibition of Specimens are held on the third Tuesday, at 8 p.m. at the Royal Society's Rooms, Institute Buildings, North Terrace, Adelaide.

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|                       |                |
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Members are urged to take Receptacles for the carrying of Specimens. At each outing every member is expected to collect Specimens wherever possible, and to hand them to the Leader for identification, etc.

Committee Meetings are held on the second Tuesday of each month.

### Postal address of the Section—

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or—

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## EDITORIAL

This issue re-introduces to members the "South Australian Naturalist" in its original size, as first published by the Section in 1919. The Committee decided that this action was necessary, and in future our Journal will appear as either a 16 or 32-page issue, depending on the amount of material the editor has on hand. The decision to alter the size was not lightly made, but as the Chairman's report clearly showed, rising costs must be faced. To continue with the larger size the Committee would be faced with the problem of finding between £50 to £60 above the subscription extra each year to finance the "Naturalist." By reducing the size the Committee hopes that a saving of at least £40 per annum will be made.

This problem is not ours alone, for discussions with members of the Field Naturalists Club of Victoria reveals that their Committee is faced with the same problem. Undoubtedly membership assists, but even this will not cover all the increases, despite the very fair treatment we are receiving from our printers.

### Wild Flower and Nature Show:

Our show will again be held in the Liberal Club Hall, North Terrace and it will be officially opened at 3 p.m. on Friday, October 3. Members will regret to learn that Mrs. Thomas Playford cannot open it as requested, due to a serious illness.

Already offers of exhibits and help have been received. Trans-Australian-Airlines have again offered to carry free up to 40 lbs. weight of plants for the Show from the main interstate capitals. Both the South Australian and Technological Museums have offered exhibits, and responses to requests for plant specimens for the exhibition have been most gratifying.

Bunches of flowers from cultivated wild flowers will also be required for the flower stall, and members who can assist in this matter are asked to advise Mrs. C. Norton.

The theme for the show will be "Wild Flowers under Cultivation," but in addition displays of native plants suitable for cultivation in the drier parts of the State will be made.

It is hoped that all members will make an effort to attend, and if possible assist with the work. Members' tickets will be available for the duration of the Show at 1/- each. Prices for admission for the general public will be 1/-, and 3d. for children up to 12 years of age. Concessions for parties of school children above this age will be given if 15 or more attend in one party, and application should be made to the Show Convener for details.

Members will be assured of an interesting meeting on September 22 when Mr. Crosbie Morrison, interstate delegate to the R.A.O.U.

Congress to be held in Adelaide during that week and Editor of "Wild Life" is to show films dealing with the "campout" of the R.A.O.U. meeting in the North-western part of Victoria approximately 18 months ago. Members may bring their friends along, but the meeting will not be open to the general public. Invitations to attend have been extended to all delegates attending the R.A.O.U. Congress, to members of the Royal, and other scientific and natural history societies in Adelaide.

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## PROCEEDINGS

The Chairman—Mr. A. Molineux presided over our August meeting at which 43 members and friends attended.

An almost record number of new members were elected and welcomed to the Section. They are Mrs. R. M. Kennett, Klemsig; Mrs. H. Wallaston, Adelaide; Miss A. Sellers, Kensington Gardens; Miss H. Grix, Seaton Park; Mr. Nemback, Flinders Park; Mr. L. Bowen, Edwardstown; Miss G. Duncan, North Adelaide, as Ordinary Members; and Mr. I. French, Strathalbyn; Mr. R. Gray, Port Augusta, as Country Members.

The programme for the evening took the form of a number of lectures given by various members of the Section. Mr. A. Mercer, showed some coloured, and black and white slides dealing with previous excursions held by the Section, as well as some showing various views of Adelaide.

Miss Stockham recounted the very happy times which all enjoyed during the 1950 Christmas Camp held at "Sea-Acres," Corny Point. Mr. Brian Glover gave some interesting details regarding recent movements of native birds from the north. Miss O. Waite gave a short note about an albatross skull recently found on one of our

beaches, whilst our Chairman, Mr. Molineux, discussed the growing of native plants—principally *Sida* sp. and *Pittosporum phillyracoides*—brought down from the Flinders Ranges, and grown in his garden.

A very pleasant evening was had by all who attended and the meeting closed shortly before 10 p.m.

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### CHRISTMAS CAMP, 1952

There are no vacancies, but if any member has been disappointed, note will be taken of names submitted in case of last minute difficulties encountered by members now booked, in which case the right to be included in the Camp may be transferred.

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### EASTER CAMP, 1953.

The site which has been chosen is the new National Fitness hostel at Aldinga. It is conveniently situated for both beach and bush expeditions, and Mr. Gunter's bus will again be available for trips further afield, if these should be desired.

As accommodation at this hostel is limited, early application is advised.



# Bird Observations along the River Torrens Outlet Channel

by Brian Glover

The artificial channel, diverting the River Torrens from The Reed-beds (the periodic flooding of which had caused considerable inconvenience in the surrounding areas) to the sea, commences about a quarter of a mile north of the Henley Beach Road, and reaches the sea at Henley Beach South, its total length being approximately two miles.

High earth mounds enclose two flat areas about 50 feet wide, between which is the broad, shallow channel. Along most of the length of this is a dense growth of Bulrush (*Typha angustifolia*), in places intermixed with a small amount of Common Reed (*Phragmites communis*) which dominates the vegetation further upstream (i.e. along the R. Torrens proper). The embankments and flats are well grassed, the only larger vegetation being in the form of a very occasional Red Gum (*Eucalyptus camaldulensi*). Above the Davis Bridge (Tapleys Hill Road) there are a number of Red Gums in the surrounding paddocks and the R. Torrens proper is lined with these trees. Along the channel are occasional small to large areas devoid of vegetation, one of these being immediately below the Davis Bridge.

Usually the bird-life of the channel is quite small, both in species and individuals. Whilst crossing the Davis Bridge on 27-2-52 the writer's attention was drawn to the

large number of birds of over a dozen species congregated on the above-mentioned bare patch, which at this time was partly covered by shallow water, the rest being wet mud.

Between this date and 9-4-52 seventeen visits were paid to the area. Most of the earlier visits were to the Davis Bridge pool only, but after this had dried out the birds were found at another pool half-way between the Tapleys Hill and Henley Beach Roads. By 9-4-52, after some rain, the channel contained water throughout its length and almost all the water birds had disappeared, only three species being recorded on this occasion, viz. Swampphen, Black-fronted Dotterel and White-faced Heron.

Although most of the visits were merely to one or both of the pools mentioned above, the channel between the Davis Bridge and the mouth (a distance of just over one mile) was examined on one occasion, and to half a mile above the Henley Beach Road on two occasions.

The following is the list of birds observed. Birds that could be seen on the beach at the mouth of the channel (such as Crested Terns, Red-capped Dotterels, Little Stints, etc.) are not included. The paddocks surrounding the channel were not examined; any inhabitants of these areas recorded were merely seen or heard in passing, or seen flying over.

- SPOTTED CRAKE** (*Porzana fluminea*):—Several seen on most visits. Crakes are usually very timid and rarely show themselves, but these birds wandered about the mudflats when the writer was only twenty or so feet from them. The under-surface of the short, frequently flicked tail is white, which feature distinguishes the Spotted Crakes from the other species.
- BLACK-TAILED NATIVE HEN** (*Tribonyx ventralis*):—A single bird was seen on several occasions. A considerable influx of this species occurred on the Adelaide Plains in May, 1951, but soon disappeared again. This bird was apparently a lone straggler. The upright tail, and general carriage of the Native Hen gives it a distinct bantam-like appearance.
- DUSKY MOORHEN** (*Gallinula tenebrosa*):—Several seen on most visits.
- EASTERN SWAMPHEN** (*Porphyrio melanotus*):—A 1 w a y s seen. As many as eleven were seen on several occasions returning from foraging in the surrounding paddocks.
- HOARY-HEADED GREBE** (*Podiceps poliocephalus*):—One seen once only.
- LITTLE BLACK CORMORANT** (*Phalacrocorax sulcirostris*):—A few birds seen upstream from the Henley Beach Road.
- LITTLE PIED CORMORANT** (*Microcarbe melanoleucus*):—Odd birds seen on several occasions; often at roost in one of the Eucalypts.
- DARTER** (*Anhinga novae-hollandiae*):—Two seen flying over the River Torrens proper on 15-3-52. An influx of this species also occurred onto the Adelaide Plains in the latter part of 1951.
- SILVER GULL** (*Larus novae-hollandiae*):—A small flock seen once only. Present in large numbers at the mouth of the channel where they come to drink.
- RED-KNEED DOTTEREL** (*Erythrogonys cinctus*):—Several seen on most visits.
- SPUR-WINGED PLOVER** (*Lobibyx novae-hollandiae*):—A flock of six seen on several occasions.
- BLACK-FRONTED DOTTEREL** (*Charadrius melanops*):—Always present in small numbers. On one occasion a flock of over 50 was seen on a large area of mud upstream from Henley Beach Road.
- WHITE-HEADED STILT** (*Himantopus leucocephalus*):—A flock of five (two adults and three immatures) were seen on most visits. They soon advertised their presence by their yapping call whenever they sighted a human intruder on their domain.
- WOOD SANDPIPER** (*Tringa glareola*):—First located in the drains along Tapleys Hill Road on 20-2-52. This species was recorded on all early visits of the series to the River Torrens Outlet Channel, the last record being on 5-4-52. A flock of about a dozen was seen on several occasions. This migrant wader is very rarely recorded in South Australia. Of similar size to the common Sharp-tailed Sandpiper, it has a white rump, barred tail

and spotted wings (much finer spotting than the coarse mottling on the Sharp-tail's wings). Its habit of bobbing its head and wagging its tail up and down is not shared by the Sharp-tailed Sandpiper, although the two Dotterels frequently bob their heads. The call of the Wood Sandpiper is a loud, shrill "Chee-chee-chee."

**SHARP - TAILED SANDPIPER** (*Erolia acuminata*):—Several were seen in company with the Wood Sandpiper on a few occasions. The rump and tail of this species are dark in the centre, white at the sides.

**WHITE IBIS** (*Threskiornis molucca*):—Three birds were seen on several occasions, perched in the Eucalypts or feeding in the channel.

**STRAW-NECKED IBIS** (*T. spinicollis*):—Although not seen along the channel, three birds were seen flying over the area late in February.

**ROYAL SPOONBILL** (*Platalea regia*):—One bird seen on three occasions.

**YELLOW-BILLED SPOONBILL** (*P. flavipes*):—One bird seen on most visits.

**WHITE EGRET** (*Egretta alba*):—Although not seen along the channel, a single Egret was seen on several occasions on the upper reaches of the Patawalonga Creek, about a mile from the channel.

**WHITE-FACED HERON** (*Notophox novae-hollandiae*):—Several birds seen on each visit.

**PACIFIC HERON** (*N. pacifica*):—A single bird was seen on all visits to 20-3-52. This is another species that "irrupted" in 1951.

**BROWN BITTERN** (*Botaurus poiciloptilus*):—Not seen by the writer, but one bird was identified by R. Schodde on 22-3-52. This species is now very rarely recorded on the Adelaide Plains.

**GREY TEAL** (*Anas gibberifrons*):—One bird on 27-2-52 and a flock of over 20 on two later occasions.

**SPOTTED HARRIER** (*Circus assimilis*):—Another stranger to the Adelaide Plains. A single bird was seen but once (27-2-52) when my attention was drawn to it by a flock of Spur-winged Plover, which calling loudly, chased the Harrier. In the field the spotting of the under parts is not always obvious, but the wing pattern *as seen in the field* (plain grey with black primaries, above and below), is not possessed by any other local hawk of comparable size. A Spotted Harrier, probably the same bird, was seen on a number of later occasions along the Patawalonga Creek, North Glenelg.

**WHISTLING EAGLE** (*Haliastur sphenurus*):—One bird seen flying over the area on one occasion.

**BLACK - SHOULDERED KITE** (*Elanus notatus*):—One, sometimes two birds seen on several occasions either along the channel or hovering over the paddocks along Tapleys Hill Road.

**LITTLE FALCON** (*Falco longipennis*):—This swift, long-winged hawk was seen but once.

BROWN HAWK (*F. berigora*),  
—Occasionally seen over the  
channel or along Tapleys Hill  
Road.

NANKEEN KESTREL (*F. cench-  
roides*):—Occasionally seen over  
the channel or along Tapleys  
Hill Road.

GALAH (*Kataoe roseicapilla*):—A  
flock seen amongst the Eucalypts  
on two occasions.

RED-RUMPED PARROT (*Pseph-  
otusi haematonotus*): — Small  
flocks seen flying over.

WELCOME SWALLOW (*Hirundo  
neoxena*):—Always present in  
varying numbers.

WILLIE WAGTAIL (*Rhipidura  
leucophrys*):—Odd birds or pairs  
always seen along the channel.

MUDLARK (*Grallina cyanoleuca*):  
—Odd birds or pairs always seen  
along the channel.

BLACK - FACED CUCKOO -  
SHRIKE (*Coracina novae-hol-  
landiae*):—One seen flying over  
on two occasions.

WHITE-FRONTED CHAT (*Eph-  
thianura albifrons*):—A resident  
of the samphire flats and sandy  
grasslands, its call "Tang" was  
heard from near the channel.

LITTLE GRASS-BIRD (*Megal-  
urus gramineus*): — Plentiful  
amongst the rushes, but because  
of its retiring disposition is  
rarely seen. Its plaintive three-  
note call is seldom heard outside  
the breeding season, but a harsh  
"Chick" may betray its presence.  
If the observer remains still and  
quiet the Grassbird may hop out  
on to the mudflat, there to con-

tinue its search for insects, but  
it quickly returns to the rushes  
at the slightest disturbance.

REED WARBLER (*Acrocephalus  
australis*):—Although plentiful in  
spring and early summer, none  
were recorded during this series  
of visits.

SINGING HONEYEATER (*Meli-  
phaga vivescens*):—An inhabitant  
of the coastal sandhills and the  
boxthorn covered flats beyond,  
its loud "Preet" call was heard  
from near the channel.

WHITE - PLUMED HONEY -  
EATER (*M. penicillata*):—Heard  
in the Eucalypts.

RED WATTLE-BIRD (*Antho-  
chaera carunculata*):—Heard in  
the Eucalypts.

PIPIT (*Anthus australis*):—Fairly  
plentiful along the grassy banks  
and flats of the channel.

RAVEN (*Corvus coronoides*):—  
Occasionally seen or heard.

WHITE - BACKED MAGPIE  
(*Gymnorhina hypoleuca*):—Odd  
birds or small parties frequently  
seen along the channel or in the  
Eucalypts.

#### INTRODUCED SPECIES RECORDED:

ROCK DOVE (*Columbia livia*).

BURMESE SPOTTED DOVE  
(*Streptopelia chinensis*).

SKYLARK (*Alanda arvensis*).

H O U S E SPARROW (*Passer  
domesticus*).

GOLDFINCH (*Carduelis car-  
duelis*).

STARLING (*Sturnus vulgaris*).



# Ecology and Co-operation in Nature

by Edgar W. Pritchard

The science which deals with the relations of plant to the soil and climate, and also to one another, is called *ecology*. The first two have been studied in agriculture for generations where the suitability of each plant to the environment, in which it grows, is the basis of farm and orchard practice in every country.

But it is only in the last few years, that the relations of plants to each other have received any direct attention. In scrub, where the varieties of plants are so numerous and diverse, this is a very complicated and time-consuming occupation. These plant associations, as they are called, have been mapped out and described for this State in Prof. J. G. Wood's book, "*The Vegetation of South Australia*." But little appears to have been done on the affect of each plant on the life history, wellbeing and nutrition of its associates, probably for the reason given above.

In cultivated land, however, the association is usually much simpler. Thus it may be useful to describe one such example, consisting of only two plant species to show how, while competing with each other for the plant food in the soil and room in the air, they may yet co-operate for mutual benefit.

Subterranean clover (*Trifolium subterraneum*) is one of the best fodder plants for converting poor scrub country in fertile agricultural land. But when planted by itself it will, in a few years, begin to deteriorate, the land becoming what is called "clover sick." If, however, at

this stage seed rye grass (*Lolium sp.*) is sown in it, the clover will recover, and a good well-balanced pasture result. Notwithstanding this the rye grass would not grow, if planted in the first place with the clover!

What is the explanation? First that scrub land contains very little nitrogen, which is an essential plant food, and therefore cannot provide for the heavy growth of rye grass. Second that the clover can obtain its nitrogen from the air by means of bacteria in small nodules on the roots; and so with its growth aided by annual applications of superphosphate it can thrive on even this poor soil.

It is well known that clovers in a grass lawn can be killed without killing the grass by a heavy application of a nitrogenous fertilizer, such as sulphate of ammonia. So what happens with the subterranean clover is that the roots, stems and leaves, all containing nitrogen, die each year and are gradually incorporated with the soil, until it is so rich in this element as to limit the growth of the clover.

Thirdly no grass of any kind can obtain its nitrogen direct from the air; thus it must depend for its supply on the soil. When the rye grass is planted it uses the accumulated nitrogen, and while flourishing itself enables the clover once more to thrive.

Thus we have a mutually beneficial association of two plants, which provides a permanent, productive and economic pasture, well-balanced from the dietetic

continued on page 14

# EXCURSIONS

## "EARLY SPRING"

A glorious day, Sunday, July 27th, with its warm sunshine and stillness, was especially welcomed and appreciated by the ten who attended the first outing for the younger members of the Field Naturalists Section. We assembled by the two large tanks at the foot of Blackhill, and after a short address by Mr. Ken Dunstone (to whom we are grateful for arranging the outing), we commenced a most enjoyable and successful day.

Among the gear carried by various members, were books, pencils and notebooks, ground sheets, extra clothing, cameras, knives and last but not least, food. A few were fortunate to have binoculars and Mr. Dunstone also brought along his microscope.

Each step was filled with interest, and minds were alert and enthusiastic. But for the keen seeing eyes of our leaders—Ken Dunstone and Brian Glover, much of which we discovered would have escaped our notice.

With the coming of Spring, the bush was a dreamworld; too much colour, too much beauty for reality—the lovely reds of *Grevillea lavandulacea*, and *Astralaria conostephioides*, the bright gold of the guinea flower, *Hibbertia sericea*. The purple blooms of *Hardenbergia violacea* trailing in profusion among the dull foliage of *Eucalyptus fasciculosa*, were especially attractive. *Drosera Whittakeri* and *Drosera Planchonii* were plentiful and we observed one specimen of *Drosera glanduligera*.

We came upon a dead fox, and while contending with the smell, a very interesting biology lesson regarding the process of decomposition was given.

As it was a warm bright day we saw only the crescent honey eater, the striated thornbill, yellow-winged honeyeater, a few swallows, magpies, a blackbird and a pair of robins. We enjoyed seeing a wedgetail eagle drifting slowly over the valleys.

Before we commenced the steep climb, Mr. Glover showed us a heathwren's nest, containing three eggs, hidden in an *Acacia armata*, and later another belonging to a yellow-winged honeyeater, with a single egg. Bird calls were frequent and

musical, but to get a glimpse of these eloquent songsters was difficult.

Fresh grows of *Cheilanthes tenuifolia* clothed the shady spots, and moss and *Schoenus Teppei*, the damp places. *Omphalia chromasin* brightened the open ground and we noticed *Polystictus oblectans* among the fallen leaves. The climb to the top of the ridge, although rather difficult was worth our effort for we found the greenhood orchids, *Pterostylis nana*, *P. robusta* and *P. vittata* among the *Eucalyptus fasciculosa* groves. The basal leaves of *Acianthus reniformis* and *Caladenia dilatata* were plentiful although none were found in bloom. The only other orchid discovered was the dainty blue *Caladenia deformis*.

For the duration of our climb we abhorred *Daviesia brevifolia*, *Acacia spinescens*, *Hakea rostrata* and *Hakea ulicina*, over and through which we had to scramble. Many were our cries, we unfortunate victims of their needle like sharpness. Even though our attention was mainly engaged in avoiding more than the necessary scratches, we observed *Hybanthus floribundus*, *Isopogon ceratophyllus*, *Casuarina Muelleriana*, *Cryptandra tomentosa*, *Asparagus medeoloides* (introduced), *Tetralthea pilosa* and *Spyridium vexilliferum*, discovered a crescent honeyeater's nest in a *Eucalyptus Baxteri*, and stopped now and again to look down the slope! The pale foliage of the Native Peach, *Eucarya acuminata* were unmistakable; the bright yellow fields of *Calendula arvensis* contrasted with the paler yellow of *Oxalis prescaprae*, and Thornton Park Reservoir mirrored the surrounding trees to perfection, while wattle trees splashed their gold through other darker foliage.

A welcome halt was called for lunch once we reached the top, and we spent a pleasant hour and a half, eating, talking and watching the crescent honeyeaters and striated thornbills. Mr. Glover pointed out another crescent honeyeater's nest practically hidden in an *Xanthorrhoea semiplana*.

Two hundred yards further on the thick undergrowth and stringybarks ceased abruptly on our left, and we gazed upon soft green dimpling hills rolling away to the Torrens Gorge which beckoned irresistibly, so we walked along

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# Australian Plants -- in the Bush and under Cultivation

Book Review by T.R.N.L.

*Orchids of the West* by Rica Erickson.

*Shrubs and Trees for Australian Gardens* by Ernest E. Lord.

## Orchids of the West

We in Australia are fortunate indeed to have so many regions in which to find plant treasures. Even within the "settled areas," unless they have been urbanised we can always be assured of a good day's outing. However, with the exception of small areas—such as the Hawkesbury Sandstone in N.S.W. or the Grampians in Victoria—no State can boast of the widespread occurrence of such unusual, colourful, delightful and locally restricted species as West Australia. Of further interest is the high degree of endemism which is greater in W.A. than elsewhere. This State has been, and is—(we hope will forever be!) the wildflower garden of Australia. Representatives of plant families such as *Leguminosae*, *Myrtaceae*, *Rutaceae* and *Protaceae* are the most sought after as garden plants, although we all know the sorrows when trying to cultivate them! But in addition to these well known examples of this spectacular vegetation, W.A. can boast of over 140 species of orchids, many species of which outshine their close relatives of the eastern states.

Books dealing with the vegetation of West Australia are few, but those dealing with particular groups of plants are rare. Therefore it is a welcome pleasure to note a new

addition to this field—"Orchids of the West," by Mrs. Rica Erickson. But this book is doubly welcome. Not only does it beautifully and clearly depict, in colour and monochrome these colourful and quaint plants, but the descriptive text is all that could be desired.

The details given are up-to-date, dealing with all known species of orchids in W.A. The introduction is most helpful to the beginner and even the professional botanist should not quibble. Botanical terms are given, but they are interestingly defined for the amateur and the "man in the street," who may be merely interested. With this book, however, he cannot remain *merely* interested for long, and before he realises it he will be fascinated by the story unfolded before him and so become a member of this ever-increasing band of enthusiasts—the orchid lovers!

The key to the success of this book is its simple approach. We learn what makes orchids different from other flowers as well as to what an orchid is. The pollination of orchids, a story commenced by Darwin in his monumental "Fertilization of Orchids," and carried on in all countries by various workers, is lucidly told. In Australia we are thankful for the work of Fitzgerald, Pescott, Sargent, Coleman, Rupp, Rogers, Nicholls, Garnet and others, all of whom have done so much to unravel the story of seed production in these interesting plants.



And what a relief it is to discover an almost "workable" key which does not immediately plunge into all the intricacies of the floral detail, usually requiring a deep knowledge of highly technical terms, before the unfortunate observer finally can name his plant! The important characteristics of each plant are not only recorded but made obvious by the use of *italics* in the descriptive text. Whilst we find that amongst orchids from West Australia the majority are endemic to that state, closely related species are found in other states of Australia; thus this work is of interest to all who specialise in this group of plants.

Mrs. Erickson has successfully combined descriptive and pictorial details to a degree rarely met with—although frequently attempted—in this type of publication. In all 22 plates in colour—from her own watercolours—as well as numerous monochrome sketches and several blocks of black-and-white giving floral details, are included in this book.

Our introduction to West Australian orchids came through the publication, about 20 years ago of the late Mrs. Emily Pelloe's "West Australian Orchids," and apart from the beautiful coloured plates issued many years ago by the "Western Mail" newspaper, little else has been published in concerted form. The book under review is indeed a worthy successor to these. Many new species have been added, the most remarkable being *Rhizanthella*, a wholly underground orchid which recently had an eastern counterpart discovered in New South Wales. A small but useful bibliography is appended, and the index covers not

only botanical and common names, but also technical terms.

It is well produced, in clear, readable type—the colour blocks have been faithfully reproduced. As it is small enough to fit into an outer pocket of a coat its use in the field will be assured, and to make it an invaluable companion for those who are fortunate enough to live in the land of these orchids. Considering printing costs and present day problems in paper, binding, etc., it is a good buy at 25s.

"*Orchids of the West*," by Rica Erickson, 1951, 109 pp., illustrations by the author, including 22 colour, 9 monochromes and 4 figures;  $9\frac{3}{4}$  in. by  $5\frac{1}{2}$  in., in buckram boards, 25s. Our copy from printers, Paterson Brokensha Pty. Ltd., Murray Street, Perth, W.A.

### **Shrubs and Trees for Australian Gardens**

Whilst it is fully realised that as naturalists we are not particularly interested in books dealing with gardens when they are even "Australian gardens," the second volume of this review is of importance to all who are interested in the conservation of native plants. Two methods of "conservation" can be readily discerned—(a) reservation of tracts of land on which native plants continue to grow under natural conditions, (b) the active preservation of native plants by "cultivating" them in the home garden, public park or botanic garden. And because of the latter method of preserving our plants, the reviewer is certain that those who are interested in this field should become acquainted with this work.



Originally published in 1948, a second edition has just been issued. Broadly dealing with the cultivation of all trees and shrubs suitable for Australian conditions, "Trees and Shrubs for Australian Gardens" by E. E. Lord is a valuable addition to our literature on this subject. In fact it is when we turn our attention to the chapters dealing with native plants one can safely say that a new type of book dealing with the cultivation of native plants has been created, for the writer is not aware that anything of a similar nature has previously been published about Australian plants.

Its usefulness can only be gauged when we closely examine the contents of the chapters headed, "Descriptive list of the Eucalypts"; "Acacias"; "Australian Trees"; "Australian Shrubs"; or the lists of plants for the various specified zones—"Southern Victoria, etc." "Cool Mountain," "Adelaide, Northern Victoria, etc.," "Sydney, etc."

Over 60 species of Eucalypts are described, the selection covering species for all types of habitats, but a number of these are of the "flowering" type. One wishes a little more emphasis had been placed (so far as South Australia is concerned) on drought resisting species, for neither *E. salubris* "Ginlet" nor *E. salmanophloia* "Salmon Gum" are given. The selection is much better with the *Acacias*—of which over 70 species are listed and described. Here are included a large number of species found naturally growing in the "mallee," Murray Lands, or the "Centre." All of these should, and can be used in greater numbers by all who wish to establish plantings in the drier districts of this or other states.

The general lists of Australian trees and shrubs are good. When reading through them one realises how many we in South Australia never cultivate, mainly because they are not available locally. One is thankful that G. W. Althofer, Dripstone, N.S.W., can supply many of them, for some of the gems listed should be seen every day rather than only at the Wild Flower and Nature Show! A number of species of Australian conifers are listed—*Callitris*, *Actinostrobus*, *Araucaria*, *Agathis*, *Podocarpus*—which are suitable for cultivation in and around the "settled areas." The *Angophoras*, *A. lanceolata* which is only now receiving the attention it should for its beautiful pinkish-white bark; *Bauhinia Carroni*, a lovely specimen which exists at Beltana — *Brachychiton*; *Casuarina*, surely a most neglected genus—species of which are invaluable for farm shelter. Over 25 species of *Melaleuca* are included, numerous species of *Hakea*, *Grevillea*, *Banksia*, *Myoporum*, *Pittosporum* are listed, as are such plants as *Stenocarpus*, *Cedrela*, *Ficus*, *Syncarpia*, etc.

When we glance through the shrub list, the paucity of species we cultivate is astounding! Numerous genera and species of the *Leguminosae*, *Myrtaceae*, *Protaceae*, *Rutaceae* are given, any of which would be equal to, if not better than many of the exotics grown today. A useful chapter on Australian climbing plants is included and the habitat lists warrant careful persusal by anyone about to commence a home garden.

The book is a most ambitious work, and the fact that a second edition has been called for and is now available confirms the need for

such a publication. There are numerous full page colour plates as well as half-tone plates, the originals of which came from the camera of one of our greatest photographers of Australian plants—Mr. Bert Reeves. It is a well produced book and the publishers have taken pains to see that the production matches the high quality of the text and blocks. The index is good and there is a most instructive *Introduction* by Prof. Turner. Chapters written specially for this book by such well known

authorities on native plants as Pescott, Althofer and Mrs. E. Scott of West Australia are also included and go to make this a most useful book. It will long remain an authoritative work on Australian plants suitable for cultivation.

*"Trees and Shrubs for Australian Gardens,"* Ernest E. Lord, 1951 (2nd edit.), 455 pp., over 170 plates including 15 colour; 10 in. by  $7\frac{1}{2}$  in., in cloth boards, with colour dust jacket. Lothian Publishing Coy. Pty. Ltd., Melbourne. £5 5s.

## "Flora of Western Australia" 1952

By G. A. GARDNER

*Book Review by* LIN WILLIAMS

Vol. 1, Part 1 (Gramineae) available from the Government Printer, Perth, deals wholly with grasses—it is to be followed at a later date by a detailed monograph on the Eucalypts and descriptions (in a condensed form) of the remainder of the flora.

In particular the very detailed descriptions of the Genera and native species together with an excellent glossary and drawings of a representative species from each genera are a great help to the student. The "Keys" are well constructed and easy to follow—in some cases cultivated grasses, not yet naturalised but otherwise important, are included in the diagnosis. The Volume is ideally set up but the location of the index before the glossary at the end of the book is an annoyance in a reference work such as this.

The author has given reasons for including the genus *Bothriochloa* in *Dichanthium*—South Australian representatives of these genera will be affected by this change. It is unfortunate that the Bromes, as we know them, have been split up into smaller generic groups: *B. arenarius*, *B. mollis* and *B. macrostachys* being listed under *Serrafalcus* and *B. Cathartica* becoming *Ceratochloa cathartica*. This practise has not been accepted by recent overseas writers and the writer of this review is of the opinion that Australian botanists have little right to rearrange the genus on the strength of the few introduced species present in this country. Important changes in the nomenclature of the group known as "Barb-grasses" have been listed and the treatment of the genus *Lolium* is applicable to the group as it occurs in South Australia.

# Our Emblem -- "Sturt's Desert Pea"

## ITS NAME AND CULTIVATION

This plant first came to the notice of botanists when specimens collected by William Dampier (one-time pirate, but later a Captain of the King's Navy) reached England. These specimens were collected in 1699 on the North-west coast of West Australia and were amongst the few items rescued from Dampier's ship when she foundered on Ascension Isle.

In his "Voyage to New Holland," a four volume work issued during the years 1703-6 Dampier describes many of his travels. His specimens of "Sturt's Desert Pea" however were described by Dr. John Woodward under the name of *Colutea Novae Hollandiae*. This name, because it appeared before the starting date of botanical nomenclature (1753) does not enter into the correct botanical name of this plant.

At the recent A.N.Z.A.A.S. Congress held at Sydney, Dampier's sheet of specimens of this plant (together with some 10 or so others) was exhibited by the Sherardian Professor of Botany, Oxford; Prof. T. G. B. Osborn, who is well known to botanists in Australia, having held academic posts at both Sydney and Adelaide Universities. These specimens were amongst the most interesting exhibits seen and all botanists attending the Congress were delighted to be able to see Dampier's actual specimens.

George Don in his "General System of Gardening and Botany" vol. II (1832) on page 468 describes the plant under discussion as *Donia*, referring three species to it; *D. punicea* (*Glianthus puniceus*, the "N.Z. parrot's beak") and *D. speciosa* and *D. formosa*. However Alan Cunningham in Lindley's Transactions of the Horticultural Society, London (1835) describes a *Glianthus Oxleyi*, based on *Donia speciosa*, and also *C. Dampieri* based on *D. formosa* citing Woodward's *Colutea Novae Hollandiae* and Dampier's specimens.

The above facts together with a full explanation of their implications was published by two botanists of the National Herbarium, Sydney (1) in 1950. They pointed out that when Robert Brown discussed the two form of *Donia* in the Botanical Appendix to "Sturt's Central Australia" he considered that they were the same (called them *C. Dampieri*) and this was the accepted name until recent times. However as Ford and Vickery show this name is no longer valid, neither is *C. speciosus* because it is a later homonym, which is not allowed under the International Rules for botanical nomenclature. This then refers us back to Don's other "Species" *D. formosa* the specific epithet of which now becomes the accepted name—thus *Glianthus formosus* (G. Don) Ford and Vickery.

However, to gardeners the world over it will always be known as "Sturt's Desert Pea," and must rank as one of our most brilliantly coloured native flowers, as well as one of the most desirable — but none the less difficult to cultivate.

(<sup>1</sup>) Ford, N. and Vickery J. in Contributions from the New South Wales Herbarium, 1, No. 5 (1950) 303-4.

#### Cultivation:

Undoubtedly the methods of raising this plant from seed and the subsequent cultivation of the seedlings can be regarded as one of the most hotly debated subjects in horticulture! Even in the "settled areas" of Australia no two methods appear always to succeed. But agreement that (a) hot water should be poured over the seed before it is sown, and (b) that the seed should be sown where it is to remain is fairly general. Seed can be raised in pots and planted out before the plants become pot bound. Agreement also occurs in that the soil should be well drained and that the plants left alone, with very little waterings after germination has taken place.

This plant has been grown for a great number of years in England and the Continent by successfully overcoming the most critical stage of its growth, namely the seedling stage, when "damping off" kills many of the plants. The method is ingenious.

Seeds of *Clianthus* are sown under glass in pots, and when they germinate, seed of *Colutea arborescens* are sown singly in pots. By the time these seeds germinate and the cotyledons appear, the *Clianthus* has produced the first "foliage leaves." These young seedlings are then severed at ground level with a razor, the hypocotyl shaped as a wedge, and into a "cleft" made in the young *Colutea* seedlings the *Clianthus* scions are placed. They are tied with a strand of raffia, and placed under glass (in a closed frame) until the union takes place — a matter of a week or so.

Thus treated they will stand further potting, and can be used as basket plants. Those who have seen "Sturt's Desert Pea" used as such will agree that they make one of the most glorious flowering basket plants it is possible to grow!

—N.L.

## ECOLOGY AND CO-OPERATION IN NATURE

continued from page 7

point of view, and may last with proper management for many years, while all the time improving the quality of the soil.

Thus we have an example of co-operation for mutual benefit in the vegetable kingdom. It is hoped that it will be of interest especially in view of the general tendency, which most nature lovers will deprecate, to overstress the opposite quality of competition, which is only half the story.

## "EARLY SPRING"

continued from page 8

a ridge which finally led us into the Gorge. A few straggling specimens of *Nicotiana glauca*, a large bush of *Logania vaginalis* and a small shrub of *Solanum nigrum*, the black nightshade, attracted attention, but as light was rapidly fading our main objective was to cover the remaining mile or two without too much loitering.

The first stars were shining when, with a final burst of gaiety, we marched up the last rise. It was satisfying and heart warming to know that the charm of our great bushland, which was experienced by the two youngest members of our party for the first time, had impressed them with wonder and delight.

N.L.H.



*Field Naturalists' Section of The Royal Society  
of South Australia*

**ANNUAL PROGRAMME FOR THE YEAR 1952 - 1953**

1952.

September

- 6—Mr. F. C. Payne's Garden at Black Hill. Lang's bus, Victoria Square East. 12 noon.
- 9—COMMITTEE MEETING.
- 16—Monthly General Meeting at 8 p.m. Subject: Presentation of F.N.S. Prize to Mr. R. White.
- 17—Conchological Society. Subject: Crepipoda.
- 21—(Sunday). Belair to Mt. Lofty. 10.20 a.m. train to Belair.
- 22—Botany Club Study Circle. Subject: *Leguminosae* (*Papilionatae* and *Caesalpinoideae*).
- 22—Special Meeting. Mr. Crosbie Morrison. Public Library Lecture Hall.
- 27—Mr. Bottrill's place at Hope Valley. Bowman's bus, 12.45 p.m.

October.

- 3 and 4—WILDFLOWER and NATURE SHOW. To be held in the Liberal Club Hall, North Terrace, Adelaide. Official opening at 3 p.m.
- 13—LABOUR DAY HOLIDAY. Monarto South.
- 14—COMMITTEE MEETING.
- 15—Conchological Society of S.A. monthly meeting. Subject: Molluscan Abnormalities.
- 19—(Sunday). Mr. C. G. O. Engel's block at Bridgewater. Train leaves Adelaide at 10.45 a.m.
- 21—MONTHLY GENERAL MEETING. Subject: "Little Known Facts about Well-Known Plants," by Mr. H. Orchard.
- 25—Barossa and Warren Reservoirs (by bus to be arranged).
- 27—Botany Club Study Circle. Subject: *Leguminosae* (*Papilionatae*)—continued.

November

- 1 and 2—Week-end at National Fitness Camp at Mylor. (Further details later.)
- 11—COMMITTEE MEETING.
- 16—(Sunday). Chandler's Hill and Happy Valley area. Leader: Mr. Schirmer.
- 18—MONTHLY GENERAL MEETING. Subject: Coloured Slides. Mr. K. Ashby.
- 19—Conchological Society of S.A. monthly meeting. Subject: *Fascioliariidae*.
- 24—Botany Club Study Circle. Subject: *Rutaceae*.
- 29—Bridgewater. Train to Bridgewater at 1.15 p.m.

December

- 13—Halletts Cove. 12 noon. Willunga train to Halletts Cove.
- 25-Jan. 1—CHRISTMAS CAMP AT CORNY POINT.

1953.

January

- 26—AUSTRALIA DAY HOLIDAY. Buckland Park. (By bus to be arranged.) Leader: Mr. Brian Glover.

February

- 7—Mr. Pritchard's block at Magill.
- 10—COMMITTEE MEETING.
- 15—(Sunday). Burnside to Mt. Lofty. 10 a.m. trolley bus from Adelaide to Burnside terminus.
- 17—MONTHLY GENERAL MEETING. Subject: Zoology. Mr. I. Thomas.
- 18—Conchological Society of S.A. monthly meeting. Subject: Molluscan terminology.
- 21—Outer Harbour. Subject: Estuarine Shells. Train leaves Adelaide at 1 p.m.
- 23—Botany Club Study Circle. Subject: Plant Ecology.

March

- 7—Estcourt House. Subject: Shells. Leader: Mrs. J. J. Turnbull.
- 10—COMMITTEE MEETING.
- 15—(Sunday). Mt. Lofty. Subject: Autumn Foliage. 10.45 a.m. train to Mt. Lofty.
- 17—MONTHLY GENERAL MEETING. Speaker: Mr. T. R. N. Lothian.
- 18—Conchological Society of S.A. monthly meeting. Subject: *Scaphopoda*.
- 23—Botany Club Study Circle. Subject: Plant Physiology.
- 28—Botanic Garden. Leader: Mr. T. R. N. Lothian. Meet inside eastern gates, 2.15 p.m.

## April

- 3-6—EASTER CAMP.
- 11—Botany Club. Meet in Museum at 2 p.m.
- 14—COMMITTEE MEETING.
- 15—Conchological Society of S.A. monthly meeting. Subject: *Mytilidae*.
- 18—Mr. Bagot's garden at Aldgate. Leader: Mr. Booth. 1.15 p.m. train.
- 21—MONTHLY GENERAL MEETING. Subject: Landscape Slides in Colour, by Mr. J. Windle.
- 25—ANZAC DAY HOLIDAY. Myponga Jetty. (Bus trip times to be arranged.)
- 27—Botany Club Study Circle. Subject: The Cycle of Life.

## May

- 2—ARBOUR DAY (tentative).
- 9—Botany Club. Meet in Museum at 2 p.m.
- 12—COMMITTEE MEETING.
- 17—(Sunday). Outer Harbour. Subject: Shells and Bird Life.
- 19—MONTHLY GENERAL MEETING. Subject: *Fungi*, by Professor Cleland.
- 20—Conchological Society of S.A. monthly meeting. Subject: American Gastropods.
- 25—Botany Club Study Circle. Subject: *Polygalaceae* and *Stackhousiaceae*.
- 30—National Park. Subject: *Fungi*. 1.15 p.m. train to National Park.

## June

- 6—Henley Beach. First train after 1 p.m. to terminus. Subject: Seaweeds.
- 9—COMMITTEE MEETING.
- 13—Botany Club. Meet in Museum at 2 p.m.
- 16—MONTHLY GENERAL MEETING. Subject: Coloured Films.
- 17—Conchological Society of S.A. monthly meeting. Subject: Genotypes of South Australian Genera.
- 21—(Sunday). National Park. 10.45 a.m. train to National Park station, thence to the North-East corner of the Park.
- 22—Botany Club Study Circle. Subject: *Sapindaceae* and *Rhamnaceae*.

## July

- 4—Sturt Gorge. Subject: Geology of a Glacial Age. Leader: Mr. Molinoux. Train to Eden Hills station, leaves Adelaide 1.15 p.m.
- 11—Botany Club. Meet in Museum at 2 p.m.
- 14—COMMITTEE MEETING.
- 15—Conchological Society of S.A. monthly meeting. Subject: S.A. Tertiary Fossils.
- 19—(Sunday). Paracombe and Inglewood areas. Leader: Mr. Schirmer. Bowman's bus at Victoria Square East at 10.30 a.m.
- 21—ANNUAL MEETING OF THE SECTION.
- 27—Botany Club Study Circle. Subject: *Sterculiaceae* and *Dilleniaceae*.

## August

- 1—Grange North.
- 11—COMMITTEE MEETING.
- 16—(Sunday). Bridgewater to Crafers. 10.45 a.m. train to Bridgewater.
- 18—MONTHLY GENERAL MEETING. Subjects: Lecturettes by members.
- 19—Conchological Society of S.A. monthly meeting. Subject: Members' Exhibits.
- 24—Botany Club Study Circle. Subject: *Violaceae* and *Thymelaeaceae*.

## PLEASE NOTE THE FOLLOWING:

1. All meetings of the Field Naturalists' Section are held in the Royal Society's rooms on the corner of Kintore Avenue and North Terrace, at 8 p.m. SHARP, for the monthly general meetings; and at 7.45 p.m. SHARP, for the committee meetings and the meetings of the Botany Club, and the Conchological Society of S.A.
2. To get in touch with the secretary write to either:—
  - (1) Box 1594M, G.P.O., Adelaide.
  - (2) Mr. K. Dunstone, Hon. Secretary, F.N. Section of R.S., 9 Constance Street, Cottonville.
  - (3) If the matter is extremely urgent, you may get the Secretary by ringing J2257 between 1 and 2 p.m., *but only at this time*.
3. For excursions—by tram please meet at the T. & G. Corner. By train please meet on the train after buying ticket.
4. For Bus Trips, always meet opposite the War Memorial on the corner of Kintore Avenue, at 8.30 a.m. for all-day trips, and 1 p.m. for afternoon trips, except when the bus is stated as leaving Victoria Square.

## Instructions to Authors

The following notes have been compiled in an effort to assist members in preparing their manuscripts, notes and observations for publication in the "*South Australian Naturalist*." Also observance of such "instructions" will greatly assist the Editor!

1. No paper shall be published unless it has been approved for printing by the Committee.

2. Papers accepted for publication by the Section shall be as concise as possible, consistent with scientific accuracy, shall be typed, double spaced and on one side of the paper only, and shall be subject to the control of the Editor.

3. The author of any paper shall be entitled to receive 6 free copies of any such paper and to obtain additional copies (not exceeding 50) upon payment of the extra cost thereof.

4. All matter for publication shall be clearly typed or written on one side of the paper only, and in a form ready for the printer. Illustrations should also be in a form ready for reproduction with the necessary reduction clearly indicated. The size for illustrations, after reductions, must not exceed a height of 7 inches and a width of  $4\frac{1}{2}$  inches. If legends are required under a plate or full page text figure, then allowance for these must be made in the maximum height after calculating the size up-

on reduction. All text figures must be clearly drawn in India ink.

5. All generic and specific names must be underlined, denoting italics. Generic names must begin with a capital letter, specific and varietal names with a small letter even where a proper name is used (an exception no longer applies in the case of botanical names).

6. In the text the names of Australian states should be written in full.

7. As far as possible a proof will be submitted to an author, who shall be permitted to make slight corrections without cost, but if these are deemed excessive by the Committee he may be called upon to pay for them.

Proofs, together with the manuscript, should be returned to the Editor without delay, and if extra reprints above the 6 free copies allowed are desired, this must be indicated upon the return proof.

8. Coloured illustrations cannot be considered, unless the author is prepared to meet the extra cost thereof.

THE FIELD NATURALISTS' SECTION  
EXCURSIONS:

1952.

October

- 3 and 4—WILDFLOWER AND NATURE SHOW. To be held in the Liberal Club Hall, North Terrace, Adelaide. Official opening by at 3 p.m.
- 13—Labour Day Holiday. Monarto South. Bus fare 12s. 6d.
- 19—(Sunday). Mr. C. G. O. Engel's block at Bridgewater. Train leaves Adelaide at 10.45 a.m.
- 25—Barossa and Warren Reservoirs. (By bus to be arranged.)

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- 1 and 2—Week-end at National Fitness Camp at Mylor. (Further details later.)
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December

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- 25—Jan. 1. CHRISTMAS CAMP AT CORNY POINT.

1953.

January

- 26—Australia Day Holiday. Buckland Park. (By bus to be arranged.) Leader—Mr. Brian Glover.

MONTHLY GENERAL  
MEETINGS:

- Oct. 21—"Little Known Facts about Well Known Plants," by Mr. H. Orchard.
- Nov. 18—Coloured Slides. Mr. K. Ashby.

COMMITTEE MEETINGS:

- October 14  
November 11

BOTANY CLUB STUDY CIRCLE

- Oct. 27—*Leguminosae* (*Papilionatae* continued).
- Nov. 24—*Rutaceae*.

CONCHOLOGICAL SOCIETY:

- Oct. 15—Molluscan Abnormalities.
- Nov. 19—*Fasciolariidae*.